The Commercial Car Journal

VOLUME XXXII

PHILADELPHIA, FEBRUARY 20, 1927

NUMBER 6

Does Your Business NET? These Tests Will Help You

PROFIT is the primary objective of all business and consequently it is the outstanding problem with which all truck dealers are faced.

Yet like all big problems, its solution is simplified by splitting it up into a number of smaller problems which are solved individually and the separate results added up to get the answer to the big problem.

This is a method that some successful truck dealers are applying to their businesses with eminently satisfactory results. They are using what might be termed "Tests of Efficiency" by which they check various phases of their operations at frequent intervals so that any profit-reducing irregularities which may develop, are detected before serious damage is done.

Tests of Efficiency

Some of the tests used by various dealers in this way and the method of application are summarized in the following:

Net profit as a per cent of sales volume—Just how much a dealer should make on each dollar of sales, perhaps will vary with the individual. But it is a simple matter for any dealer to make a sufficiently accurate estimate of future sales and, knowing his capital investment, to determine what per cent he must net on his volume to insure an adequate return on the money he has put in the business. Having established this percentage, the actual performance of the business may be checked against it at frequent intervals. Moreover, the total profit earned being simply the sum of the profits on individual sales, attention is focused on the importance of making each deal show the standard profit.

Relation of current assets to current liabilities—Ready money is mighty important and a comparison of current assets, which include cash, receivables and inventories, with current liabilities consisting mainly of accounts payable, provides the dealer with a measure of his business from this standpoint. Opinion varies as to just what this relationship should be but probably current assets always should be at least twice current liabilities.

Turnover of accounts receivable—This test tells you whether your money is being used to finance your own business or that of your debtors. One authority says that accounts receivable should have a turnover every 45 days; that is, when total accounts receivable is

divided by average daily payments, the result should not exceed 45. If this figure is exceeded, interest charges on money borrowed from the bank will be abnormally high and there is a possibility that the lax collection methods will result in excessive bad debt losses.

Turnover Important

Turnover of inventories—This test is applied both to trucks on hand and to parts inventory. It measures the efficiency with which the capital invested in the business is used and the skill exercised in purchasing. It is a particularly important test in the case of used trucks as storage and other carrying charges on trucks traded in which are not sold quickly, eat into profits very rapidly.

Departmental expenses as a percentage of departmental sales—Profit depends on the relationship that exists between costs, expenses and sales. Knowing what per cent of profit his sales must show to yield a satisfactory return on capital and knowing what the merchandise sold by the truck sales and parts departments and the labor sold by the shop costs, the dealer can determine what percentage of sales remains to cover expenses after profit and costs are paid. With this percentage fixed for each department, he is able to keep a close check on expenses and see that they are held to a percentage that will insure the desired net profit.

Accounting Essential

Proper accounting methods and effective use of the information the financial records supply, are fundamentals on which business success is based. Periodical statements from the books should be in such form that they can be analyzed and interpreted, and the knowledge thus gained used not only in the reduction of expenses but also in the general management of the business. Keeping accurate records may seem like a lot of detail but experience has shown that they pay for themselves many times. It is the only way that the facts needed for the proper conduct of the business can be obtained.

Application of these tests in truck dealer businesses has shown many dealers how to operate their businesses more efficiently. They are simple and easy to use. They make business more interesting as well as more profitable. Use them in your business.

Larger Down Payments and Shorter Terms

THE current year offers better possibilities for sound, profitable operation in the truck and bus field than any previous period, in the opinion of many of the most important executives in the industry. Quizzed as regards what 1927 holds for the truck industry, most executives are found to emphasize:

1. Factory production in 1927 may very well turn out to be no greater than it was in 1926; possibly it will be a little less.

2. But, 1927 will see an overwhelming majority of commercial vehicles sold on terms which insure credit, safety and certain profits. The more conservative financing methods brought into vogue within the last six months are here to stay.

3. The constantly growing replacement market will stabilize the truck industry more and more every year.

4. The truck and bus have become an integral and normal part of the transportation scheme of the country; as vehicles they no longer have to be sold to the commercial public.

If there is anything in unanimity of opinion, the foregoing prognostications certainly will come true. A few men, high in truck company councils, are dissenting in some particulars from the views outlined, but an overwhelming majority appear to be seeing the situation through exactly the same spectacles.

A New Era in Automotive Thinking

It is definitely encouraging—as well as somewhat unusual—to find a large group of executives in the automotive industry who find it possible to see sound, profitable business ahead without any expectation of setting new production records. This fact alone portends the arrival of a new era in automotive thinking and operations and almost certainly is the herald of greater stability and a steadier production curve in the motor truck industry.

The worst days of motor truck retail financing already are behind, if the determinations being expressed by executives today may be taken as a reliable indication of future practices. Almost without exception, truck makers are looking toward sounder retail financing conditions this year than ever before. On this point both large and small producers are in general agreement, however, many points of difference may arise as regards some other phases of truck marketing.

A. J. Brosseau, president, Mack Trucks, Inc., for example, stated his feeling on this matter quite definitely:

"Production during 1927," Mr. Brosseau said, "will be somewhat reduced because of the disposition on the part of manufacturers to adopt a more conservative credit policy. This may temporarily reduce the volume of business, but the effect will be good for all concerned and tend to stabilize the industry."

Open Door

Leading Truck Executives Say Larger Net Even If Vol

Following along the same line of thought is the statement made by John S. Clarke, vice-president, Autocar Co., in reply to a similar query. Mr. Clarke says:

"We believe that truck output as a whole may not be as large in 1927 as it has been in the past year, but we think it will represent better business for the truck companies individually than past records show. It is absolutely essential that the manufacturers and distributors of trucks realize the poor policy of building volume at a sacrifice of profits and by extending long terms and accepting unsound credit risks."

More Profit on Smaller Volume

An important executive of a smaller company expresses like views, when he says: "In my opinion the number of trucks and buses that will be sold during 1927 will not be any greater than during 1926, but the basis upon which the business is done will be much more sound and profitable"

William Schacht, president, G. A. Schacht Motor Truck Co., believes "that the movement now on foot to place retail financing of motor trucks on a more conservative basis is a very constructive one which may temporarily retard sales but benefit the entire industry in the long run." Mr. Schacht adds: "We ourselves are scrutinizing our time paper very carefully and are giving particular attention to obtaining the required cash down-payment and to keeping the deferred payments within 18 months. We believe that the outlook for 1927 is very encouraging and that if a concerted effort is made by all truck manufacturers to do a saner business with respect to financing, trade-ins, etc., profits will be greater even though the volume of business may be less."

These expressions are typical of those obtained from a large group of truck executives, a somewhat less optimistic view being recorded only by a few. The stabilizing influence to be exerted in the future



to Bigger Profits in 1927

Sounder Credit Policies Insure ume Does Not Exceed 1926

by the growing replacement market is emphasized by several executives. J. W. Stephenson, president, Indiana Truck Corp., for instance, says on this subject:

"The replacement market is ever widening and with a constantly new source of buyers available, created by new uses for good motor trucks, it appears to me that 1927 will be good for those who are in a position to take advantage of it.

"I believe that credits will bear more scrutiny and that greater care will be exercised in retail financing."

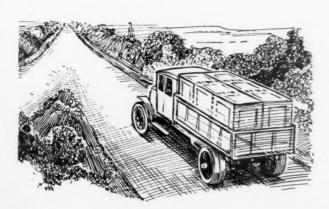
The replacement market already has become a factor of real importance in estimating truck sales for any given year. While accurate calculations of this secondary market are difficult because of the variables involved in available statistical data, it would appear as though somewhere between 150,000 and 200,000 commercial vehicles will have to be built in 1927 solely for the purpose of supplying replacement needs. This, quite obviously, is an important proportion of the total truck market at the present time and will become an increasingly important factor in the future.

Outlook Considered Favorable

A generally optimistic outlook is expressed by most truck executives in talking about the prospects as a whole. Many companies reported their production to be several weeks behind orders as they started the new year, while the present dominance of the motor truck as a transportation unit in most lines of business is cited as an additional fundamental reason for optimism about the future.

J. R. Spraker, president, Atterbury Motor Car Co., for example, says that "one of the best things we can say is that we entered 1927 already four weeks behind on deliveries."

M. L. Pulcher, president, Federal Motor Truck Co., paints a bright general picture in the following words:



"The Federal Motor Truck Co. believes that the motor truck is the greatest potentiality on the business horizon. In support of this confidence, its program for the coming year is based on multiplying the factory output of 1926 by two.

"Both the truck merchant and the truck user today are facing scientific management. It must be accepted and employed if the truck is to render the service for which it is built.

"Any unrest which may be present in the motor truck industry is purely adjustment and momentary in its reaction. This country is growing at the yearly rate of 10 per cent increase over its current population. How are all of these people going to be cared for except by motor trucks? There are approximately 5,000,000 vocational prospects in the United States, whose needs run from one truck to over 100 trucks as the different business classifications may demand. Less than 3,000,000 trucks are under license. A great many are becoming useless daily. What can seriously touch the industry under such circumstances?"

Changing Conditions

Interesting also are some of the comments made by B. A. Gramm, president, Gramm Motors, Inc. Mr. Gramm writes in part: "It does not make any difference, according to my judgment, whether times are better than 1926 or a great deal poorer than 1926. You cannot stop the motor bus and the short and long-distance motor truck in the next two years, for the reason that living conditions have so changed that we are absolutely dependent on this new mode of transportation for the very economic existence of our people.

"I am willing to make the assertion that 1927 and 1928 will see buses and trucks sold on sound credit terms. I am a firm believer that paper should never extend beyond 18 months and that we should gradually work that back to not over 12 months, and never under any conditions take less than 25 per cent cash down.

"I am also going to put into effect in our own company a differential in the selling price between the cash buyer and the time buyer of at least 8 per cent."

And here is what George A. Brockway, president, Brockway Motor Truck Corp., says: "I cannot see a cloud in sight for first six months of the coming year.

"The writer is of the opinion that the truck business is getting on a better basis so far as wild deals are concerned"

Discussing the situation on the Pacific Coast, Watt L. Moreland, vice-president of the Moreland Motor Truck Co., says in part:

"The tightening up of sales conditions forced by the banks and finance companies, in our opinion, will be reflected by a considerable reduction in new truck sales. It will probably take two or three years before the truck situation is balanced, and during this period of time the sale of new trucks will be below the past two or three years' average."

Altogether, 1927 looks like a year of sound business, reasonable profits and increasing stability in the motor truck industry.

Who WILL BUY

How Philadelphia White Organization Uses Truck Owner List to Identify Prospects for its Sales Force

HOW the local sales organization of a leading truck maker fine-combs Philadelphia for business, how it determines the amount of business it should get and how it checks the performance not only of the individual salesman but of the organization as a whole, are detailed in the accompanying story.

The methods employed may be adapted to the needs of any truck dealer and will help him give his territory the intensive cultivation that is essential under present highly competitive conditions. There is nothing complicated about the plan nor is it expensive to operate.

Read the story. It will help you to do a better job of truck selling in your territory.



ALL truck prospects fall naturally into three classes. The first of these is made up of present owners of commercial vehicles, part or all of whose transportation equipment is nearing the oldage limit when it will be necessary to replace it with new trucks.

The second class also includes present owners of trucks, but in this case they are in the market because the expansion of their transportation requirements make additional equipment essential.

In the third group are non-owners of trucks who need transportation equipment. Newly established businesses come under this heading.

An overwhelming majority of truck buyers, particularly for the heavier types of vehicles, belong in one or the other of the first two classes.

This analysis of the truck market is the foundation of the sales plan which the White Company's district office in Philadelphia is using so effectively in that city. Present owners of commercial vehicles form the bulk of the market and it is by concentrating the major portion of its merchandising efforts on them that White is able to get the volume it desires in this local market.

Division of Territory

The city territory is divided into twenty assignments, each one being in charge of a salesman. The salesmen are divided into two groups of ten with a sales manager at the head of each group. This division of control makes it possible for the executive in charge of each group to be more familiar with the work of his men and to follow up and direct their activities more effectively than would be the case if the management of

the entire sales force were centered in any one man.

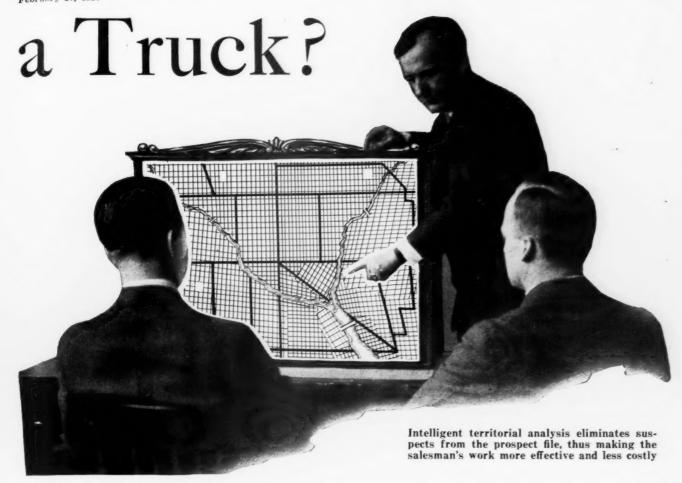
Each salesman is provided with a visible file containing a card for each truck operator in his assignment with the exception of Ford, Chevrolet and Dodge owners. These cards are arranged alphabetically and show, in addition to the names and addresses of the owners, the nature of their business, the makes of trucks owned, the capacities and the year of manufacture. This information is all obtained from a company making a business of compiling lists of truck owners from the registration records at the state capitol. These files identify the major portion of the prospects, immediate and future, for the salesmen and give considerable information as to their transportation requirements.

Salesmen Protected

The salesmen, of course, have complete protection in their assignments. However, in addition to these files, there is an open file made up largely of owners in the territory who for some reason are not considered particularly live White prospects. Any salesman may go to this zoned file and select names with only limited restriction as to their location in the city.

Knowing who owns trucks in the territory and what makes are in use, the management is able to determine the total number of trucks and the percentage each make has of this total. This information is also developed for each assignment and is used to estimate sales possibilities as a check on the performance of the salesmen.

In addition, it is estimated that 15 per cent of the trucks in operation will reach the end of their useful life during each year and this provides a measure of the replacement market. This information is used in



determining how much business can be obtained from this source, an estimate being made of the percentage of the total which White can reasonably expect to obtain. This estimate can be checked up with the prospect cards which show the age of all trucks in use. Obviously, the age information on the cards also shows the salesmen which prospects are most likely to replace worn-out equipment. The prospects' cards, of course, carry records of calls and also a date tickler to insure proper follow-up.

The non-owner truck buyer is not overlooked, as the foregoing might indicate. Intensive cultivation of the owner list gives the salesman a knowledge of his territory that insures his being in on at least his share of deals with buyers who have not previously owned commercial vehicles.

Keeping Track of Sales

The sales department maintains a close check on White sales and those of competitive makes in the territory by means of reports of sales compiled from registration records by the listing company referred to previously. One of these is on a monthly basis and shows sales by makes of trucks rated at 2 tons and under and at $2\frac{1}{2}$ tons and over. This report gives the sales of each make for the month and for the corresponding month of the previous year, and also the total for the year to date for each make in comparison with the same period of last year. These figures enable the sales management to check performance in comparison with competition by showing what percentage of the total market each make is getting and which are gaining and which are losing.

In addition, a daily report of truck sales as indicated by registrations of new vehicles is obtained from the state capitol. This report gives the name and address of the purchaser, the make and capacity of the truck bought and whether a trade-in was involved. All sales of competitive makes are checked to see whether a White salesman was in on the deal and, if so, why the sale was not made. If he was not in on the deal, an investigation is made to determine the cause. In addition, a check is made to see whether the buyer is on the owners'

Not Expensive to Operate

At first glance it might seem that the operation of this system involved considerable detail, but this is not the case. After it is established, it is doubtful that it takes any more work to run than some other sales plan which would give less intensive cultivation of the territory and less information regarding sales conditions on which the management can base its plans.

The costs of the owner lists and the reports of sales made in a territory are not so expensive as to be beyond the reach of any truck dealer. Of course, in the case of the White Company, the cost is considerable but it should be remembered that Philadelphia is one of the largest and most important industrial cities in the country. The price of such reports varies with the size of the territory and even the small dealer will find that their value to him is greater than their cost.

Under the highly competitive conditions prevailing in the truck and bus field, it is becoming increasingly important for management to enter more actively into the direction and control of the work of the salesmen. More accurate identification of the prospect who needs truck transportation and who has the money to pay for it, is one of the things that can be done to make selling more efficient and less costly.

Dollar Volume





In the after-market each truck registered is equal to two passenger cars

NOT Registrations Is True Measure of Truck Market's Importance

By Donald Blanchard

HE important contribution the truck and bus industry is making to the automotive market is not reflected with entire accuracy by commercial vehicle sales and registration figures alone although they do show the magnitude to which the manufacture of trucks and buses has grown and the extent of their use. Sales and registrations of passenger cars so greatly exceed those of the commercial vehicle that a real estimate of the size of the truck and bus market is obtained only by resorting to a comparison of dollar volumes in the two fields of transportation.

When such a comparison is made, the truck and bus industry reveals a purchasing power that is nearly a quarter as large as the passenger car market instead of about an eighth as big, as a casual glance at corresponding sales and registration figures might seem to indicate. By analyzing the commercial vehicle market and comparing it with the passenger car business in this manner, the truck dealer gets a real appreciation of the magnitude of the business in which he is engaged and its true significance in the automotive picture.

Commercial vehicle sales in 1926 approximated 426,-000 and registrations totaled 2,819,772, representing respectively 12.1 and 14.6 per cent of passenger car sales and registrations, as shown in Table I. However, the dollar value of sales of commercial vehicles and of

replacement parts, supplies, fuel, lubricants and replacement tires in the truck and bus field amounted to \$1,422,000,000 or 22.5 per cent of the corresponding sales in the passenger car market. When new vehicle sales are eliminated from the comparison, leaving only those materials entering into operation and maintenance, the result is even more striking, for the truck and bus total under this heading is \$897,000,000, or 28.7 per cent of the \$3,118,000,000 spent in this way by passenger car owners.

To emphasize further the importance of the aftermarket created by the commercial vehicle, it is worth noting that truck and bus operators spent 71 per cent more for operation and maintenance materials than for new vehicles, while expenditures under this heading in the passenger car field did not quite equal the new car sales volume. Another comparison on the basis of average purchases per vehicle follows:

Replacement Parts and Supplies	Sales per tuck Regis- tration \$50	Sales per Car Regis- tration \$40
Tires for Replacement	. 89	31
Fuels and Lubricant		91
Total		\$162

TABLE	ī
TILDELL	-

Commercial

	Commercial Vehicles	Passenger Cars	Per Cent of Passenger Cars
No. vehicles sold,			
1926*	426,000	3,535,000	12.1
Registrations, 1926 Average retail	2,819,772	19,223,443	14.6
price	\$1,230	\$910	135.0
Retail sales: Replacement parts and sup-			
plies Tire replace-	\$145,000,000	\$770,000,000	18.8
ments Fuels and lubri-	250,000,000	600,000,000	41.7
cants	502,000,000	1,748,000,000	28.8
Total for opera- tion and main- tenance ma-			
terials New vehicle	\$897,000,000	3,118,000,000	28.7
sales	525,000,000	3,200,000,000	16.4
Total	\$1,422,000,000**	\$6,318,000,000	22.5

TABLE II

	mercial Vehicle Regis- trations	Regis- trations	of Com- mercial Vehicle	
New England		6.8	5.2	154
Middle Atlantic		23.9	16.8	168
South Atlantic	. 16	9.5	9.7	116
East North Central.	. 17	24.8	22.6	129
East South Central	. 10	3.7	4.9	89
West North Central.	. 11	10.3	20.5	111
West South Central	. 21	8.0	8.4	121
Mountain	. 17	2.8	5.1	57
Pacific	. 2	10.2	6.8	177
United States	. 11	100.0	100.0	119

^{**} Does not include sales of special equipment such as hoists, winches, etc., amounting to \$25,000,000 nor does passenger car total include accessories.



General view of part of the truck exhibit at the Chicago show

Truck Exhibitors Well Pleased with Show Results

REPETITION of the success of commercial vehicle exhibition at New York, in Buffalo,

By H. Lionel Williams

At the Chicago show, one prominent manufacturer reported visits from no less than ten dealers seek-

Cleveland and points west, and now in Chicago, has convinced both manufacturers and the trade that the New York success was not just a fortuitous circumstance. The experience has been repeated at each show and it has become a recognized fact that exhibits of trucks at passenger car shows provide one of the most effective means of developing direct business and attracting more general attention to the truck industry.

Previous truck exhibitions on the whole have been poorly attended and the reason is not far to seek. Truck shows are strictly business shows. There is no interest to them save in cold cash; the atmosphere is not favorable. Dealers are disinclined to take the time to travel to a show that is practically devoid of that subtle factor of human interest and subject himself to the insistent attentions of salesmen and factory representatives.

On the other hand the automobile show combines business and pleasure in high degree. Everyone is inter-

ested in automobiles in some degree, and in many cases it is a social duty to look over the latest effort of the chassis and body builders. People who sell trucks for a living are not exempt from this trait, and so, once at the show, it is no hardship to combine business with pleasure and give the truck section a once-over.

Whether that is the explanation or not—some of these things can not be reduced to terms of logic—the results are indisputable. The automobile shows bring business to the truck organizations exhibiting in them.

ing franchises on the opening day. Another exhibitor interviewed fifty-four national account buyers who had come from different parts of the country. One of these buyers had traveled 1200 miles to attend the show. Every exhibitor expressed himself more than satisfied, and stated that buyers and private individual prospects had visited their booths.

Then there is the aspect of mass attack upon the consciousness of the everyday truck user. Small tradesmen, for example, buy their first delivery vehicle and work it as long as the wheels will go round. The advertising value of the machine never occurs to them. They go to the show to see the automobiles. There are the trucks in their shining paint and the handsome lines of recent production. Ideas in delivery vehicles have advanced since they bought, and this is the first time that change has been brought forcefully to their notice.

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that permeates the entire organization of the Blue Ribbon Garage dealers.

This is the spirit 66We Are Here

By C. P.

RAPHIC sales records are one of the tools the Blue Ribbon Garage, Inc., is using effectively in the management of its business. Up-to-date information regarding the work of the salesmen is available in readily understandable form. If expected results are not being produced in any section of the territory, records are available which enable the sales executives to analyze the situation and to prescribe the necessary remedy.

NE of the oldest and best known merchandisers of motor highway transportation in Connecticut is the Blue Ribbon Garage, Inc., Bridgeport. Established as a garage in 1907 its owners at that early date began development of sales by representing the Packard trucks which were sold and serviced up to the time their manufacture was discontinued. The experience, which was profitable, demonstrated that whenever both trucks and passenger cars were handled separate sales organizations were essential. This policy was continued when the Dodge line and Graham Bros. trucks were taken on, and is in force today.

A spirit of "we are here to serve you, to your satisfaction," permeates the entire organization, from the girl at the information desk to the president. And all executives and department heads are easily accessible to visitors.

An unusual angle is attendance at meetings and many of these are held after working hours. The average is 80 per cent and includes the mechanics, floormen, elevator man, washers, etc. No pressure directly or indirectly is brought to bear. The members attend the meetings because they are stepping stones to a better position and higher

It is the policy of the executives to pick its department heads from the ranks. As an example, G. A. Lyon, assistant sales manager and in charge of truck sales, rose from the service department. T. Sandberg, in charge of service and a service executive, was picked from the parts department. And the best truck salesmen are graduates from the service ranks.

Development meetings are held once a week at night and a notice is posted giving the date and time. Everyone is The executives attend and these include president, J. Schiott; vice-

The salesmen's reports are in triplica mary forum, which is made up daily for

president and general sales manager, M. Mathison, and treasurer, Wm. Mc-Kay, who by the way, is a canny Scot whose discourses on finance get across to the employees. The object of these gatherings is to develop sales spirit in the raw material. The novice is encouraged to ask questions and to take part in the discussion of sales and service subjects.

When the time approaches for the novice salesman to make his debut he is fitted for his work and his success or failure is up to him. He is given a salary to begin with but no commissions. A conservative quota is set, one that will equal his salary and one that he should easily exceed if he has any sales ability. This salary quota is set for a year in order to hold the neophyte and develop him.

The truck salesmen are educated to sell economical transportation with low maintenance costs. The company favors the zone system, having used it at all its branches with good results for the past four years.

Two salesmen are assigned to a zone to stimulate sales competition. Pro-

tection is given to the outside salesmen. The house zone or floor salesmen are not allowed to follow up and close leads developed on the floor by the outside salesmen. Prospects of the outside men are credited to the outside salesman making the last call on the prospect.

Floor and other leads are distributed evenly in the zones and prospect protection is given for a period of 30 days. Salesmen make out a complete report on each call, the reports being in triplicate and in different colors. The original in yellow, when filled out, gives a number of important details, as will be apparent by this form reproduced herewith. Every report is numbered so the sales manager or his assistant knows how many calls are made, and more interesting still is the character of the calls. The original is stamped by a girl in charge of these reports and is placed in the master file. The salesman marks the date of the next call and, if after four days have elapsed and no call or report is made, the report is sent to the truck sales head. The file is cleared weekly.

The first duplicate report is for the office file and the third, white, goes to the salesman's file. The file girl transfers from the reports a summary to the salesman's daily report sheet. This gives in total, daily, the various types of calls, and totals, and other information relating to sales, which data are marked up on a blackboard in President Schiott's office. Every month the data are compiled by the girl and transferred to a blue filing card that gives the record day by day, totals, etc., and by zones, branches, etc.

a better position and higher	Name	SALESMAN'S DAILY REPORT Date Zone No.
he policy of the executives its department heads from	Campaign Calls	Remarks REPORT NO
As an example, G. A. Lyon, sales manager and in charge	Owner " Prospect "	PROSPECT REPORT NO.
ales, rose from the service de- T. Sandberg, in charge of	Prospect " Total "	PROSPECT REPORT NO PASSENGER CAR NAME SALESMAN
nd a service executive, was m the parts department. And ruck salesmen are graduates service ranks.	Demonstrations Appraisals Sales	COMMERCIAL CAR ADDRESS TIME A M. AT MOME INTEREST GOOD FAIR FOOR INTERVIEWED TO PARTICULAR FEATURES THAT APPEAL TO PROSPECT—MEASONS FOR NOT BUTTON AND APPEALANT OF PEROSPECTATIONS TO BE OVERCOME—PROSPECTS OFFICING OF SECONSTRANGE AND APPEALANT.
ment meetings are held once night and a notice is posted date and time. Everyone is The executives attend and ade president, J. Schiott; vice-	Deliveries Used Car Calls " " Sales " " Deliverie	es
alesmen's reports are in triplica forum, which is made up daily for reports is transferred to the bl	nte. The sum- rom salesmen's	

to Serve You" I All factors per-

Shattuck

The blackboard referred to is interesting, as it gives a picture of what is accomplished in the sales organization, as may be noted by the accompanying illustration. Beginning at the left of the board, the abbreviations at the top of the columns have the following meanings: Name of salesman or branch, sales quota, deliveries to date, daily sales, daily deliveries, owner calls, prospect calls, new prospects, demonstrations, appraisal, with the remaining columns showing the sales of each type by branches and the shipments to each branch by type.

Appraisal is the work of the service department. Every truck and car visiting the service station is appraised, and all data are transferred to a form which goes to the sales department. The reason for this appraisal is obvious. A salesman calling on an owner of a Dodge or Graham truck may be a prospect for a new unit. On his return the salesman consults the appraisal file, which is the same as the new truck sales file, and finds complete information or the history of the truck to date. The data include how much the owner has spent in repairs and parts and other valuable information for the salesman.

The sales blackboard does not separate the calls as to trucks and cars, but this is done in the data supplied Mr. Lyon. The board, however, gives the record of truck transactions of the various branches for the benefit of President Schiott and General Sales Manager Mathison.

If detailed information is wanted it can be quickly supplied by the files or



The sales blackboard revealing detached information as to the progress of the sales organization in Bridgeport, branches and associate dealers

by a special report. For example, if a branch appears to be lagging in its quota Mr. Lyon can call for the zone summary or daily reports and analyze conditions. It may be that general business conditions in a certain branch are below normal. These are facts the successful sales manager must know in considering sales results and quotas. Space is given on the board for noting the body types sold and delivered. This information plus the records showing where certain designs are, enable the sales manager to shift or draw upon

the stock for a branch in need of a certain design.

are known and con-

trolled for definite quota

making.

The zone quotas for trucks are set for the year and the figure is determined by an analysis of the zone, the salesman's experience, his past performance and former sales records. Rural zone quotas are smaller, of course, and a higher commission credit is given.

The factory allotment is divided among the branches and associate dealers on a percentage basis and consideration is given to new vehicle registration and similar quota factors. So well has the quota system functioned that the factors of supply and demand have been held practically equal. It is said that the associate dealers have been with the company for years. They and the branches furnish daily reports, sales, service, etc., to the Bridgeport office. A service car from Bridgeport calls daily on the branches and associates so the contact is well maintained.

Reference has been made to meetings and the attendance. There is a weekly ammunition or sales meeting at night at Bridgeport and similar meetings are held at New Haven, to which come the nearby dealers. In addition there is a 30-minute sales meeting ev-

(Turn to page 30, please)

CAMPAIGN CALLS ROSPECT CALLS NEW PROSPECT CALLS DEMONSTRATIONS USED CAR CALLS USED CAR DELIVERIES

The monthly summary card gives results of Bridgeport, branches and associate dealers. Both sides are used

"Long Distance"

Proper Methods and Modern Equipment Produce

By James W.

AN additional source of profit has been found by progressive repair shops in that it is possible to machine a connecting rod bearing to fit an engine, which may be several miles away. Accurate measurement of the crankpin and use of connecting rod bearing outfits insure a good fit between bearing and crankshaft with little, or no hand scraping. "Long distance" bearing fitting, as it is often called, also simplifies roadside fitting of rod bearings; time is saved even in the shop by reducing the amount of crawling under a chassis to fit bearings.

Fitting of rod bearings is a profitable service which repair establishments can offer to individual owners of buses and trucks. The investment required for an outfit, whether reaming, boring or broaching, is not large. The direct income and increased customer good-will resulting from its use have amply repaid many service stations which have installed the equipment.

Hand scraping a connecting rod bearing takes a lot of time. If the crankshaft has been reground and undersized bearings installed the replacement of a rod bearing may take several hours. However, if an owner can buy a connecting rod bearing and have it placed in the rod and machined to fit

the crankpin of his engine "while he waits" he is quite willing to pay a fair price for the accommodation.

Two elements are essential for bearing work of this kind. The first is accurate measurement of the crankpin. The second, a machine to finish the bearing to a size determined by the first measurement plus the standard clearance.

An outside micrometer provides the measurement. The crankpin is measured at several points around the circumference to show whether the pin is out-of-round. Readings are also taken at intervals along the length of the pin to check "spooling." Out-of-roundness of .001 in. and taper of .002 in. may be allowed without fear of trouble. But a bearing fitted to a battered crankpin will not last long.

Record of Crankpin Sizes

Measurement of crankpin may be made by the owner of the vehicle or by a mechanic sent out from the shop. In case the engine is known to be in good condition the measurement may be dispensed with and the bearing machined to standard size. If the service station has a record of previous reconditioning of the engine, the size of the crankshaft will be on record and the bearing is machined to corresponding size.

Actual measurement is made whenever possible. It gives a check on the condition of the crankpin surface and avoids possible mistakes.

Firm seating of bearing halves in rod and cap is essential when removable type bearings are used. Oscillation of bearing shells due to improper fitting is a common cause of bearing trouble. Once started, the movement grows until



1. Size of the crankshaft is determined with a micrometer. Out-of-roundness and "spooling" are checked by measurements made at several points around the circumference and along length. If the owner's mechanic has a micrometer he should be able to make this measurement.

2. The bearing is installed with little, or no, hand-scraping. Crawling under the chassis to fit bearings is reduced to a minimum. End clearance is checked before final assembly.

the shell may move ½ to ¼ in. Oval anchor screw holes, broken anchor screws and wear on the back of the bronze shell are the result.

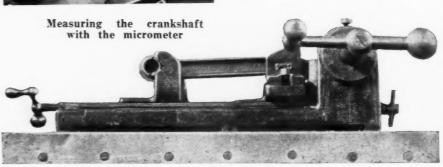
Bearing shells should contact with the sides of rod or cap, before touching the bottom when placed in position. When forced into place the edge of the shell should project above the face of the rod or cap. The amount of this projection, called "pinch" or "crush" depends upon the size of the bearing but is always .002 in. or more. By placing a steel rule across the edges of the bearing shell and measuring with a feeler gage between face of rod or cap and shell this dimension is determined accurately.

The next step after the bearings are seated is machining the bearing metal to fit the corresponding crankpin. When bearings are fitted by hand scraping it is necessary that the job be done in proximity to the engine. Scraping and fitting are carried on in successive stages until a good fit is obtained.

When connecting rod bearing machines are used the bearing is machined to size without direct reference to the crankshaft. The machines provide a true surface. In some outfits provision is made to insure the hole's being in line with the piston pin.

Boring machines of the fly-cutter type, single and multiple bladed reamers and broaching outfits are used for





When connecting rod boring machines are used bearings may be machined direct to size

Rod Fitting A Short Route to PROFIT

a Better Job in a Shorter Time

Cottrell

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In the Shop—

1. Bearings are machined to exact size, within close limits. Size is determined by adding standard clearance to dimension of crankpin, as shown by micrometer. Reground crankshafts impose no handicap on the quick completion of this repair operation.

2. Final fitting and testing is done on a mandrel which is a substitute for the crankpin. Oil pressure test is included as a further step toward reducing hand-fitting when the rod is re-assembled in the engine.

machining connecting rod bearings. Fly-cutter type machines are adjustable over a rather wide range. Reamers have a very limited range of adjustment, in some cases none. Broaches are not adjustable. To cover the general run of work, including bearings for reground crankshafts, equipment must be at hand for all sizes likely to be required.

Micrometers are used in most instances for setting bearing boring machines. Manufacturers of fly-cutter machines usually furnish a table of settings. The table gives the dimension, measured from the cutting edge of the cutter to the opposite side of the shaft or bar, to bore a bearing to any desired size, within the range of the machine. By adding the amount of standard clearance, recommended by the manufacturer, to the size of the crankpin determined by micrometer measurement, the size of the hole to be bored in the bearing is easily figured.

Checking the size of the bearing at the start of the cut is good practice. A pair of inside calipers is used for this purpose. Mistakes in setting the machine are thus prevented. Calipers are set with micrometers to the predetermined size. It takes but a minute or two to check the size after the first cut and prevent the bearing being spoiled.

Greater clearance can be allowed with safety on bearings machine-fin-

ished than those hand-scraped. A machined surface is more nearly perfect. A hand-scraped bearing has many high spots which are worn off in the first few hours' running. The bearing is fitted tight and is a running fit after the limbering-up period.

On the other hand, machined bearings being more uniform than the usual hand-scraped bearings can be given proper oil clearance at the start.

In general, pressure lubricated engines have greater bearing clearance than those with splash lubrication.

The importance of proper end clearance is often overlooked. If the clearance is too small the throw-off of oil from the bearing will be reduced. If too much an excess of oil will be thrown off and at times a slight tap may be heard.

Special tools simplify the operation of facing connecting rod bearings. In some the rod is rotated about cutters. In others, the rod is clamped and the tool revolved by means of a brace or tool holder. In either case the connecting rod bearing is quickly reduced to a predetermined overall width.

Use Mandrel for Final Fit

Use of a mandrel for final fitting still further reduces the amount of hand work required when the rod is assembled in the engine. A mandrel which is the same size as the machined hole in the rod bearing is frequently used. Its diameter exceeds that of the crankpin by the amount of the standard clearance, say .0025 in. If the bearing is fitted tight on a mandrel in this manner it will fit the crankpin and allow the required clearance when placed in the engine.

Stepped mandrels with each step .001 in. smaller than the preceding, are useful for this operation. They provide several sizes of bearing surfaces in a

convenient form. Accurate fitting of bearings is insured by trying the bearing on two adjoining steps. If tight on one and fairly free on the other it may be assumed that the size is right within a limit of .001 in.

Fitting of shims is only slightly less important than fitting bearings. On pressure lubricated engines, an excessive throw-off of oil from one bearing may starve others. Improperly fitted shims will bring about this condition. Defective shims should be discarded and replaced with new. Much time is wasted fooling with a lot of worn-out or make-shift shims. Shim fitting should be completed before the bearings are machined.

An oil pressure test may be used as the final check of a new bearing. Actual test in the engine may not be possible. But an approximate test may be made on a stock crankshaft set up on the bench or on a bearing fitting mandrel, drilled for that purpose. This is but another step in the plan to do all possible fitting and checking in the shop and as little as possible at the vehicle.

Installation of a new connecting rod bearing in an engine of a truck on the side of the road is, usually, far from pleasant. The weather is not always fine, dust is blown about, and the lack of shop facilities is a handicap. Much time can be saved by mounting a connecting rod bearing machine in the trouble car and machining the bearing on the spot. If a bearing is to be fitted to a reground crankshaft use of the bearing machine may save an hour or





Left: Bearings permitted to remain in a loose condition are soon pounded out and ruined

C. C. J. SHOP IDEAS

profit by scanning over these practical saving idea will often result in a sale.

 T^{HIS} page is primarily designed to hints. The average buyer today is help service station repairmen in more conversant with the important exacting economies in time, labor and details of truck operation and mainmoney. Salesmen, however, can also tenance than ever before. A money-

Readers have secured many valuable suggestions from the series. We want more useful hints and will pay \$2 for each idea accepted. Simply tell how it is used and made and accompany it with a rough pencil sketch.

No. 118-Anchoring a Ceiling Receptacle

A reinforcement for a ceiling type receptacle is provided by fastening a heavy screw eye inside the receptacle, as indicated in the illustration. washer is placed on the screw eye before it is screwed in the ceiling and this keeps the receptacle in place, without the usual screws. The wire is fastened to the screw eye by tape .- S. A. Luers, 130 E. Capitol St., Washington, D. C.

No. 119-Running-in Pump With Portable Drill

A coupling, made in our shop, enabled us to run-in water pumps by using a portable electric drill for power. A short piece of 1/4 or 3/16 in. round bar is fastened in a section of steel tubing by a cross pin and two washers, as indicated in the drawing. A hole is drilled in the end of the tubing and tapped for a set screw which gives contact with the pump shaft. The pump is held in a vise during the running-in process. The tubing should be as nearly as possible the same size as the pump shaft .-- Vincent Murray, GMC Service Station, Philadelphia, Pa.

No. 120-Brake Adjusting Jig

A jig for adjusting internal brake bands before the wheel is applied can be easily constructed, as shown in sketch. Four sections of bar stock are mounted in an old hub, as shown. A short curved section, matching the curvature and thickness of the drum, is mounted on the end of each arm, with an adjustment provided by sliding the section on the arm. The arms may be ruled in inches or marked with proper setting for each type of rear axle.-Reader.

No. 121-Vent for Gas Filling

By soldering four metal strips, equidistant, on the nozzle of a gas filling hose a vent is provided which allows air to escape and prevents spattering of gasoline about the filling spout. The device is particularly useful on high-speed pumps.—C. O. Wendell, DeKalb,

No. 122-Adjusting Brakes

Fifty per cent greater clearance should be given the portion of exter-nal brake bands near the operating lever than at the rear anchorage. The pull on the lever tends to bring the

band nearest that point in contact with the drum first and to hold it there with harder pressure. Better braking and longer life of linings will result from adjusting clearance to, say, .030 in. near the lever compared with .020 in. at the rear anchorage.-E. P. Rotzell, Ferodo Service Station, Philadelphia.

No. 123—Removing a Broken Stud

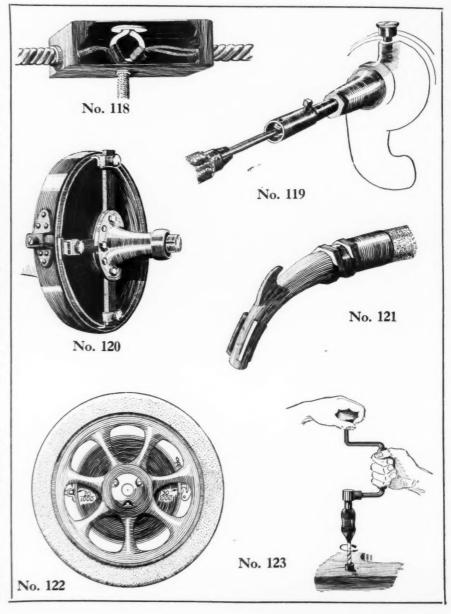
Broken or rusted studs can be removed by using an old twist drill, with of the booklet.

a diameter three-fourths of the stud, which has been sharpened in the reverse way. The drill is used in a brace which is turned backwards, as indicated in the drawing. As soon as the drill begins to bite hard the stud will have a tendency to turn; the greater the downward pressure on the drill the greater the turning force .-W. L. Warner, Campton Lodge, Shefford, Bedfordshire, England.

Babbitt Metal Data

A booklet giving much worthwhile information to users of babbitt metal has been issued by the Hoyt Metal Co., St. Louis, Mo. Methods of preparing and pouring of babbitt, lubrication and fitting of bearings are described.

A table giving hardness at 70 degrees and 212 degrees Fahr. melting point, liquidation, specific gravity, proper pouring temperature, and deformation under various loads of eight brands of metal, is one of the features



Commercial Car Journal

Flat Rate Price List

Engine Repair Operations

1—Remove and Replace Water Pump. 2—Remove, Recondition and Replace Water Pump. 3—Repack Water Pump

Armleder 50, 55, 60 \$1.50 Armleder 70 1.50 Brockway R & T 2.25 Brockway E & S 2.25 Chevrolet	5.25 .75 7.50 .75 7.50 .75 2.25 .45 2.25 .45 6.75 1.50	Larrabee-Deyo X-21. \$7.50 Mack AB Chain 2.50 Mack AB Dual 2.50 Mack AC 3.45 Pierce-Arrow X 4.50 Pierce-Arrow W & R 4.50 Pontiac 85	4.35 1.46 4.35 1.46 6.45 1.46 9.75 2.76 9.75 2.76
Defiance 4.50 Dodge Brothers 4.25 Douglas 2.25 Garford 1, 1½ & 2½ 3.00 Garford 4, 5 3.00 Graham Brothers 4.25 Hahn 1.50	5.00 1.25 2.25 .75 5.25 .75 4.25 .75	Reo T-6 3.00 Reo FV 5.00 Ruggles 3.00 Star 4 1.00 Stewart 16, 17 1.50 Stewart 16X, 17X 1.50	6.25 1.05 8.10 1.20 7.50 1.25 1.80 .60 4.50 .75

Garford Brake Operations

- B1. Reline and adjust all rear wheel brakes
- B 2. Reline and adjust rear wheel service brakes
- B3. Reline and adjust rear wheel emergency brakes
- B 5. Reline internal brake shoes or bands (1 wheel) when bands or shoes are off
- B7. Renew rear wheel brake drum, wheel
- B9. Free up all rear wheel brake mechanism or renew (wheels off)
- B 17. Adjust service brakes, rear wheels
- B 18. Adjust emergency brakes, rear wheels B 23. Renew hand brake ratchet pawl

		B 1	B 2	В 3	B 5	B 7	B 9	B 17	B 18	B 23
Garford	15	.\$10.50	\$9.00	\$9.00	\$1.50	\$1.50	\$3.00	\$3.00	\$3.00	\$.75
Garford				9.00	1.50		3.00	3.00	3.00	
Garford				15.00	1.95	1.95	4.50	3.00	3.00	.75
Garford					1.95	1.95		3.00	3.00	.75

Correction

Readers are requested to note the following corrections in the Flat Rate Price List appearing in our January issue:

Operation 13 for Mack AB and AC trucks should be \$6.45 instead of \$28.65.

Operation 16 for Ford 1-ton, with old-style crankcase lower cover, should be \$4.00 instead of \$2.75. No price should be listed for operation 17 on this model.

Operation 16 for Ford 1-ton, with new-style crankcase lower cover, should be \$2.75 instead of \$4.00. Operation 17 should be listed as \$8.00.

Timken Axle Overhaul Prices Revised

Flat rate prices for overhauling Timken axles have been revised by the Timken-Detroit Axle Co. The scope of work included in each class of overhaul has been changed slightly and prices are lower, in some instances. The new schedule of Timken unit overhauls will be published in our March issue, superseding those which appeared in our October issue.

Four classes of overhaul are offered on front axles, eight for rear axle carrier assemblies, four for full floating rear axle housing and four for fixed-hub type rear axle housings.

New Truck Models of the Month

Century

THE Century Motor Truck Company of Defiance, Ohio, formerly the Defiance Motor Truck Company, has recently announced two new models, namely—FRT, 1½-2-ton, and EVT, 2-2½-ton, upon which it will concentrate all its efforts. The 1½-2-ton job, which is the latest model, uses a

not make it obligatory for the dealer to contract for any given amount of trucks or territory.

Indiana

THE new 5-ton, Model 41, Big Steve, Indiana chassis recently announced by the Indiana Truck Corporation, Marion, Indiana, is designed to facil-

itate service operation by permitting substitution of spare units when repair or overhauling is required. The major units are more quickly demountable.

This new model is offered with three wheelbase options, namely, standard 172 in., long 196 in., and short 148 in.

in., long 190 in., and short 148 in.

With a chassis weight of 9600 lb. and a body allowance of 1800 lb. this truck is capable of 23.7 m.p.h., and turns in a radius of 34 ft.

The powerplant is 4-cylinder, detachable L-head, 4¾ by 5¾-in. engine. Cylinders and crankcase are cast in block, and a lower pan which is of pressed steel, serves as an oil reservoir only. Three-point suspension is employed. Full force system of lubrica-

tion is used with an oil Filtrator in the circuit. Water circulation is by centrifugal pump. The governor is operated from the oil pump shaft. A combination air cleaner and stove is used. Ignition is by magneto with impulse starter.

Power is transmitted through a dry plate clutch to a four-speed transmission situated amidship with three-point flexible mounting.

Power transmission is through two tubular propeller shafts equipped with metal universal joints. The rear axle is of the worm drive full floating type,

The frame is heat treated, channel section pressed steel, 8 in. deep with 3-in. flange of 5/16-in. stock. Springs are of silica manganese steel with ten 40 in. leaves in front and seventeen 50 in. in the rear.

Internal expanding service brakes are provided on the rear wheels. The hand brake acts on the propeller shaft. Cam and lever steering gear is used and is operated by a 22-in, wheel.

Front and rear wheels are metal and are equipped with solid tires, single 36 x 6 in front and giant singles 46 x 12 in the rear.



The Century 1½ to 2-ton model, one of the two new models just announced. It is designated as model FRT

six-cylinder engine with detachable head, 3\%-in. bore, 5-in. stroke, giving a rating of 23.4 hp. and developing 45 hp. The other units of this model include a Borg & Beck dry plate clutch, three-speed transmission, Timken 5620 full floating axle, Zenith carburetor, electric equipment such as starter, generator (Auto-Lite) headlights, battery, electric horn, tail light, spot light, stop light, dash light, Moto Meter, windshield wiper and all other accessories. The tire equipment consists of heavy duty truck cord tires 30 x 5 in. front and 32 x 6 in. rear.

The EVT model includes a Hercules engine, 4 cylinders 3¾ x 5⅓ in. with force feed lubrication and fivebearing crankshaft. A 4-speed transmission in unit with engine is standard equipment. A 3-speed unit transmission together with an amidship 4-speed transmission may be had at extra cost. This combination gives 12 speeds forward. The rear axle is a Timken worm with radius rods. Acetylene headlights are standard equipment. Electric starter and lights are optional at extra cost.

The manufacturer states that it will concentrate its efforts principally in the states of Ohio, Michigan and Indiana.

This company has also organized its own acceptance and finance company to assist its dealers and distributors in handling truck paper. This company's franchise is claimed to be a very equitable one and among other things dons

International Harvester

 $T_{2\frac{1}{2}}$ and $3\frac{1}{2}$ -ton nominal ratings have been added to the International Harvester line of motor trucks. The smaller model 54-C has a capacity of



Indiana's new 5-ton model 41 Big Steve has three wheelbase options

2½ to 3 yards while the larger 74-C will carry from 4 to 5 yards.

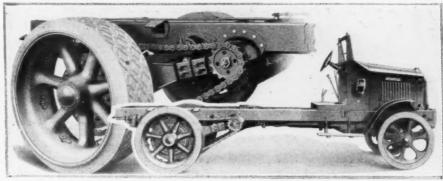
Both models have four speed transmissions and, in the 74-C, the live axle has a two-speed range giving eight reduction ratios to the rear wheels. In low-range, first speed, the maximum overall reduction of 86 to 1 is obtained while in high-range, fourth speed the minimum reduction of 10.6 to 1 is secured. In reverse the maximum reduction is 102 to 1.

In the 54-C, first speed gives an overall reduction of 48 to 1 while fourth speed provides an 8.15 to 1 reduction. With the transmission in high gear and the governed speed of the engine at 1350 r.p.m., the maximum road speed of the 54-C is 17.7 m.p.h. on solid tires and 19.25 on 38 x 9 in. pneumatics. At the same engine speed, the 74-C has a maximum road speed of 15.3 m.p.h. These performance figures are with the regular ratios, higher or lower speeds being available with special ratios.

The engine in both models is the well-known 4¼ x 5 in., overhead valve International Harvester powerplant which is featured by a ball bearing mounted crankshaft and removable cylinder sleeves. Ignition is by Robert Bosch high tension magneto. Transmission, dry multiple disk clutch and engine are assembled in a unit power plant which is three-point suspended.

The steering gear is a worm and wheel type with the column set at a 30 deg. angle for comfortable driving. Alloy steel, semi-elliptic springs are employed front and rear, auxiliary springs being provided at the rear as on other International Harvester models. The service brakes are of the internal type acting on cast steel drums on the rear wheels while the emergency brake acts externally on the propeller shaft. Cast steel wheels are regular equipment on both models. On the 54-C the standard tire equipment is 5 in. front and 10 in. rear solid tires on 36 in. wheels. The 74-C has 6 in. solids on 36 in. wheels front and 12 in. on 40 in. wheels rear.

Reinforced frames are one of the features of these new models. The reinforcement consists of a ¼-in. channel riveted to the web of the main frame channel and extending from the dash to the end of the frame. There are no rivets in the flanges of the main channels. Wheelbases are 140 and 154 in. respectively.



Showing the new International Harvester model 74-C chassis, 5 tons' capacity.

Note the provision for ready adjustment of the chain

Ruggles

THE Ruggles Truck Co., Saginaw, Mich., recently announced two new six-cylinder chassis, of 1¼ and 2-ton capacity. Model 18, the smaller unit, has an unusually low frame made possible by use of underslung rear springs with a cut-out in the frame over the rear axle. This feature permits low frame height without a kick-up.

Interchangeable four or six-cylinder engines may be used in Model 18. The four-cylinder engine is a Lycoming "CT" 3¾ by 5 in. with five main bearings and force feed lubrication. The six-cylinder engine is a 3¼ x 5 in. Lycoming "S".

A Brown-Lipe three-speed transmission is mounted as a unit with the engine. The rear axle is of bevel gear type with a one-piece pressed steel housing. Steel spoke wheels and 30 x 5 in. pneumatic tires are standard.

Standard wheelbase is 134 in, with an option of 154 in. Chassis weight is 3000 lb, and 800 lb, is allowed for weight of body.

Electric lights, speedometer, electric horn, and Hexdees on all springs are included in standard equipment.

The chassis is designed for mounting of the new Ruggles Coupe-cab. The cab is of metal with slanting windshield, instrument panel and divided seat with spring padded lazy back.

Platform body with two-section stake rack, express body with flare sides, express with full canopy and inclosed panel bodies are furnished for Model 18.

The Model 25, 2-ton chassis, is powered with a Lycoming six-cylinder

engine, four bearing crankshaft, forced feed lubrication, centrifugal water pump cooling, 3% in. bore by 5 in. stroke. A pressed steel radiator shell mounted on springs with a Perfex core is used.

Transmission is Brown-Lipe selective sliding, four speeds forward and one reverse, in unit with engine.

The rear axle is a Ruggles Wisconsin, full floating double reduction, bus type.

Steel spoke wheels with 32 x 6 front and 34 x 7 heavy duty pneumatic cord tires are standard equipment.

The chassis weight is 4200 lb. The chassis is built in three wheelbase lengths, standard 160 in., long 177 in., extra long 189 in.

Standard equipment includes electric lights and starter.

The Model 25 is also designed to use the Ruggles Coupe-cab as described for the Model 18.

Selden

NEW 2-ton speed truck desig-A nated as the Model 38 and designed specifically to meet such difficult operating conditions as are encountered in the oil fields, has been added to the Selden line. The new truck has the same general lines as the regular Pacemaker model and is powered with a Continental 8R, six-cylinder engine of 3% in. bore and 41/2 in. stroke. It differs from the Pacemaker in having a larger and heavier frame, four-speed transmission, larger rear axle, radius rods and heavier rear springs. The standard wheelbase is 148 in. with an option of 166 in. and the pneumatic tire equipment is 32 x 6 in. front, 34 x 7 in. rear.



New six-cylinder, Model 25 Ruggles truck, 2 tons' capacity

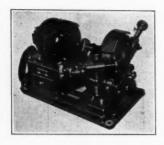


Newly announced Model 38, 2-ton Selden for oil field service

New Equipment at the National Shows

Stevens Walden-Worcester Valve Face Grinder

A MOTOR driven model valve face grinder which may be converted into a hand power model for portable



use is produced by Stevens Walden-Worcester, Inc., Worcester, Mass. The price of the outfit is \$70.

A line of spiral expansion reamers with cutting pilots for piston pin bushing work was shown. Other new items were: shock-type wheel pullers, universal reamer wrenches, piston ring tool, nine tools or jigs for operations on Ford cars and heavy duty socket wrench sets.

Wadell Bearing Machines

Machines for boring main and connecting rod bearings were demonstrated by Wadell Engineering Co., Newark, N. J. The importance of correct alignment in bearing work was pointed out to interested service men and the manner of insuring alignment with Wadell equipment explained in detail.

Manley Car Washers

A TWO-GUN car washer produced by the Manley Mfg. Co., York, Pa., requires a floor space of only 24 in. by 30 in. The electric motor is mounted above the Worthington triplex pump which it drives by a silent chain.



The washer complete with guards, silent chain drive, 6 ft. of suction hose, two 25 ft. lengths of pressure hose, two guns, automatic pressure controller, pressure gage and motor, ranges in

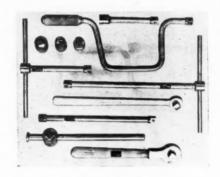
price from \$416 to \$500, according to the type of motor specified.

Other Manley items exhibited were a new brake testing device, a spark plug tester and a one-gun washer. Various sizes of screw presses and the 60-ton hydraulic press were also shown.

The brake tester consists of a flat angle iron base carrying a small platform. Braking ability is measured by reading the pressure of air required to move the platform by means of a cylinder and piston.

Bonney Socket Wrenches

AMONG the new products of the Bonney Forge & Tool Works, Allentown, Pa., is a complete line of detachable head socket wrenches, which are made of chrome-vanadium steel. The sockets are forged from solid bar stock it is said. In addition to the sockets a complete assortment of han-



dles has been developed. These consist of solid offset handles, ratchet offset handles with reversible lugs, "T" handles, ball bearing brace type handles of various lengths and extension bars. Adapters are also provided so that these handles may be used for the very large size sockets.

A new line of right angle CV wrenches was shown. A kit of five of these wrenches accommodating hexagon head cap screws from 3/16 in. to % in is offered at \$6 list price.

Weaver LO-Way Jack

THE new LO-Way jack is a recent addition to the line of the Weaver Mfg. Co., Springfield, Mass. The saddle is quickly adjusted to the axle on this jack, it is stated, by pressure on a pedal. Another item shown in the Weaver line was a power tire spreader, operated by compressed air. High pressure and balloon tires up to $10\frac{1}{2}$ in. may be handled in this spreader. Cold riveting of timing gears was demonstrated on the Weaver 60-ton Hi-Speed press. The new model truck jack was also displayed.

Kellogg Air Compressors

KELLOGG MFG. CO., Rochester, N. Y., exhibited four new models the EM261X, EM62X, EM152 and Bull Dog. The first and second are designed

for paint spraying. The EM261X is a single cylinder type with 1½ hp. motor of 8 cu. ft. displacement and listing at from \$220 to 290 depending on the type of motor. The EM62X is a double cylinder type of 16

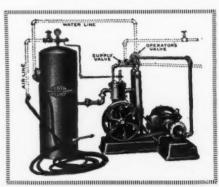


cu. ft. displacement and with 3 hp. motor, the price range being from \$345 to \$445. Model EM152 is a two-cylinder type designed for extra large service stations. The standard size has a 2 hp. motor and the oversize a 3 hp. The displacements are 12 and 16 cu. ft., respectively. Prices range from \$540 to \$680, depending on size and motor. The Bull Dog is made in stationary and portable types and will handle two lines of hose. The motor is rated at 1/3 hp. and the displacement is 2.25 cu. ft. The price range is from \$212.40 to \$245.

Curtis Air-Mist Washer

A GLASS-INCLOSED demonstration cabinet was used to show the Curtis air-mist system in operation. The cabinet was lighted inside, giving a good view of the discharge from nozzles for either chassis washing or body washing.

The Curtis Pneumatic Machinery Co., also exhibited a two-stage tire inflation



outfit with a glass crankcase, electrically lighted, to show the oiling system and the design to prevent oil from reaching the air. Compressors for paint spraying, air stands and other models of inflation compressors were included in the display.

Hutto Cylinder Grinders Are of the Hose Type

A HONE for piston pin bushings and three models of Hutto cylinder grinding machines of the hone type in operation featured the showing of the



Hutto Engineering Co., Detroit, Mich. The portable grinding machine with vertical shaft motor, power stroking and adjustable swivel feet interested many service men. The machine may be used in position on a cylinder in chassis or on a separate base. The Model "A" Twinthree grinder

was exhibited with a stroking stand for bench or portable electric drill use. The new radical arm honing machine was shown in operation.

B. & D. Valve Seat Tester

THE Black & Decker Mfg. Co., Towson, Md., has developed a unique device for testing fit between valve and seat. It consists of an inverted cup having a rubber ring at the bottom to make a tight seal with the cylinder head surface around the valve. A pressure gage is mounted on the cup and there is also a connection through a check valve to a rubber bulb.



The bulb readily develops 10 lb. pressure by squeezing, which pressure is indicated on the gage. Leakage is indicated by a drop in pressure in the chamber.

Sioux Roller Chuck

THE new Sioux chucking system, for use with the valve face grinding machines manufactured by the Albertson Co., Sioux City, Iowa, has three rollers which grip the valve stem just above the worn part, thus assuring



proper relationship between face and valve stem guide hole. The capacity is from 5/16 to % in. It is said to be easy to use and the floating aligner assures proper alignment. The new chuck is regular equipment on machines 640, 650 and 660.

Nicked tooth valve seat reamers in 15 and 75 degree angles for narrowing valve seats and special seat reamers for Mack AC trucks were also displayed. Various types of valve lathes, both hand and power driven, were shown in operation.

Hoopes Bro. & Darlington, Inc., Wood Spoke Wheel

A NEW wood spoke wheel fitted with Goodyear type "K" rims has been brought out by Hoopes Bro. & Darlington, Inc., West Chester, Pa.

The brake drum is bolted to the base of the spokes and, as wood is a practical non-conductor of heat, there is no transference of heat to the rims and tires by this path. Moreover, the spoked construction gives good ventilation around the brake drums thus largely reducing the effect of direct radia-



tion on the tires. The construction of the wheel is unusually sturdy and the two features mentioned above undoubtedly will do much to increase tire life.

On rear dual tire equipment, to remove both tires, it is necessary to handle only eight loose pieces—6 nuts, 1 wedge ring and 1 spacer ring. Spare tires are carried on the rims only and can be applied to the wheel by one man.

P. R. T. Gas-Electric Wrecker

A N emergency wrecking car recently put in service by the Philadelphia Rural Transit Co., to serve its extensive gas-electric bus fleet has many interesting and unusual features.

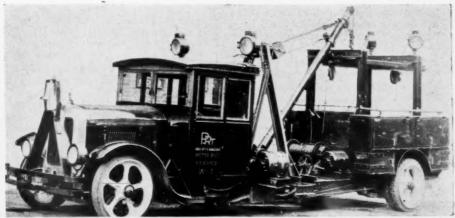
The winch and crane wrecking equipment was supplied by the Silent Hoist Co., Brooklyn, and was mounted by the Walter Motor Truck Co., Long Island City. The equipment consists of a Silent Hoist Model TL swinging boom derrick with a radius of 180°, permitting it to pick up a load from either side of the chassis. The derrick is operated by a double drum friction clutch winch, one drum handling the load and the other raising and lowering the boom. Each drum has a capacity of 7500 lb. on a single line. The boom is of alloy steel tubing and is adjustable in length. The winch is driven by a low voltage vehicle type motor taking its current supply from the vehicle generator.

A steel gallows frame, in the rear of the chassis, is used as auxiliary wreck-

ing equipment. It has capacity of six tons ample to lift and tow either end of the heavy buses. A model TA clutch drum winch operates in conjunction with the gallows frame. The winch also has

ing equipment. It has capacity of six electric motor drive with five forward tons ample to lift and tow either end of and five reverse speeds.

The chassis is that of a gas-electric bus developed by P. R. T. engineers in



Philadelphia emergency wrecker for gas-electric fleet

Have You Heard __That ~

FEDERAL-AID road projects completed during the fiscal year 1926 contributed a net addition of 9417 miles to the mileage of improved roads in the Federal-aid system, according to the annual report of the Bureau of Public Roads of the United States Department of Agriculture. Added to the mileage improved with Federal assistance in previous years, the above brings the total length of improved Federal-aid roads up to 55,902 miles.

Vice-president Newell Lyon has opened headquarters for the western region of the White Co.'s sales and service organization in Kansas City. E. W. Stock is regional service manager. Mr. Lyon was district manager for the White Co. in Kansas City from 1916 to 1920 and since then has been Chicago district manager and in charge of distribution at the home office in Cleveland.

UNDER an agreement reached between American Car & Foundry Motors Co. and International Harvester Co., salesmen of the former company will sell the I-H bus and its line of trucks to a restricted field, consisting of established rail operations and transportation companies. Parts for the A. C. F. buses and Hall-Scott engines will be carried in stock at the various branches of the Harvester company. Harvester also will use the Hall-Scott engine in several of its truck models.

George C. Hubbs has joined the president's staff of Durant Motors, Inc. He was formerly sales manager of the Ajax Div. of the Nash Motors Company and prior to that assistant sales manager of Dodge Brothers.

THE Stoughton Truck Co., Stoughton, Wis., has been formed to manufacture the Stoughton fire truck, formerly a product of the Stoughton Wagon Co., and other fire-fighting and prevention equipment, special built automotive units and other metal lines. The company will be incorporated with a capital stock of \$100,000, the incorporators being E. H. Webster and Herman Rippchen, both of Stoughton, J. P. Eagen, Avoca, and Harry L. Olbrecht, Madison.

According to a tabulation in Aera, 217 electric railway companies reported a total of 6613 miles of bus routes in operation in 1926 as against 3086 miles reported by 212 companies in 1925.

STERLING MOTOR TRUCK CO. has received an order for 52 trucks most of which will be used for motor bus service in the Argentine and the balance in the Buenos Aires district.

Earnings of Dodge Bros., Inc., for 1926 were \$27,793,673 after depreciation but before interest and taxes as against \$28,698,846 in 1925, the latter figure including \$654,811 profit on real estate sold. Sales in 1926 were \$252,997,484 as compared with \$216,841,368 in 1925. Under a change in policy all commercial vehicles in the future will be made by the Graham Bros. division.

GRAHAM BROTHERS, truck manufacturing division of Dodge Brothers, Inc., last year shipped 37,463 units, or a gain of 55.7 per cent over the 24,056 shipped in 1925. A total of 29,830 %-ton commercial cars was shipped compared with 26,657 the year before. Graham Brothers also enjoyed an unusual gain in its Canadian business, which totaled 191.9 per cent over 1925.

H. G. Root was reelected president of the National Automotive Parts Assn. at the annual meeting. Other officers and directors reelected were W. W. Martin, vice-president; C. H. Davis, secretary-treasurer, and Henry Eagle, C. C. Colyer, R. W. Boozer, Estel Scott, A. F. Baxter and A. C. Darling, directors.

JOHN A. RITCHIE has been appointed vice-chairman of the board of directors, and Paul W. Seiler has been appointed president and general manager of the Yellow Truck & Coach Manufacturing Company.

Manufacturing Company.

Mr. Seiler is one of the youngest chief executives in the General Motors organization. He has been president and general manager of the Ternstedt Manufacturing Company, a subsidiary of Fisher Body Corporation.

NEW YORK CITY'S lively controversy over the award of bus franchises to serve its five boroughs, which has assumed the proportions of a major local political issue in recent weeks, will be threshed out at a public hearing on March 22, immediately after which, it is believed, the contracts will be awarded by the Board of Estimate.

At the most recent meeting of the board devoted to a discussion of the bus situation, the field of 72 applicants for the franchises was reduced to seven petitioners only, and the franchises presumably will be awarded to these, or some of them. THE White Co. is planning a service and sales building program that will total \$1,225,000. Buildings will be erected in thirteen cities. Work on a new structure in Syracuse, N. Y., will start March 1 while Milwaukee will have a building with 30,000 sq. ft. of floor space. The branch at Fresno, Cal., has recently moved into its new home. Direct factory branches have been established at Shreveport, La., and Amarillo, Texas.

R. W. Judson was reelected president of the Continental Motors Corporation. Other officers reelected were W. R. Angell, executive vice-president; W. A. Frederick, vice-president in charge of engineering; R. M. Sloane, treasurer; T. M. Slmpson, secretary.

ONLY about \$15,410,000 will be spent this year by street railways in the United States for new buses, out of total appropriations for plant, equipment and materials expected to reach \$263,830,000, according to the Electric Railway Journal. The amount set aside for bus purchases is 11 per cent less than in 1926, a year which proved disappointing to many bus manufacturers so far as street railway business was concerned. The total expenditures are estimated at \$31,000,000 over last year.

C. E. Thompson, president of Thompson Products, Inc., has been made an honorary officer of the Twenty-second Battalion of Alpine Chasseurs in recognition of his part in aeronautical and automotive progress.

CONTINUED promotion of the use of electric street trucks has been adopted as the main feature of the promotional activities in 1927 of the manufacturers of electric trucks, batteries and accessories, working in cooperation with the Society for Electrical Development. Major attention will be paid to local territories where truck manufacturers are represented and where the local central station will cooperate in the promotion of electric street truck use.

President Coolidge has requested Congress to appropriate \$65,000 to be used by foreign trade commissioners to aid American automobile and truck manufacturers in their fight to gain and hold foreign markets.

GENERAL MOTORS TRUCK COM-PANY branch at Spokane, Wash., for the past three years operated under the Seattle branch, is now being operated as a direct factory branch, according to Fred Barnes, manager. RELAY MOTOR CORP. has been formed by the amalgamation of the Commerce Motor Truck Co., Ypsilanti, Mich., and Service Motors, Inc., Wabash, Ind. The new corporation will manufacture both Commerce and Service trucks as well as the Relay axle. Activities of the new company will center at Wabash and present field and distributor organization will remain intact.

Officers of the new corporation are: W. R. Bassick, Chairman of the Board; G. L. Gillam, President and General Manager; M. A. Holmes, Vice-President in charge of sales; Paul Abbott, Vice-President, and A. K. Tabor, Secretary and Treasurer. All the officers, with the exception of Mr. Tabor, are members of the Board of Directors which includes in addition E. W. Bassick, E. S. Evans and M. A. Furlaud.

H. B. Mixer has been appointed sales manager and B. M. Burns, service manager of the axle division of the Eaton Axle & Spring Company.

American Car & Foundry Co. is delivering 50 A. C. F. gas-electric double-deck coaches to the city of Detroit.

THE Federal Motor Truck Co. has opened a sales school at the factory, offering ten-day intensified courses to Federal truck salesmen. The first class started on February 7, and each group is limited to 50 students.

The course is open to all members of the Federal sales organization. Students' expenses comprising railroad fare and living costs in Detroit are absorbed in three ways, one-third by the Federal company, one-third by the branch, distributor or dealer, and onethird by the student.

BILL authorizing the directors of public safety of Pennsylvania cities of the first and second class to license all hired drivers of motor vehicles has been drawn up by the Philadelphia Chamber of Commerce and will be presented to the state Legislature next week. No charge will be made for this license which will be in addition to the regular state driving permit. A feature of the bill is that it provides for finger-printing of drivers for purposes of positive indentification.

JOHN KELSEY, one of the pioneers of the industry and president of the Kelsey Wheel Co., died in Detroit on January 19. In his passing, the automotive industry loses one of its outstanding and best liked executives.

I NCOME tax collections in the United States in the calendar year 1926 totaled \$2,172,127,321 and, of this sum \$88,920,180 or 4.1 per cent was collected from the automobile industry, according to Treasury Department figures.

George Frank Lord has resigned as general sales manager of the Star Car Division of Durant Motors, Inc.

A. S. More is vice-president and general manager of the Indiana Truck Corp., and not president as incorrectly stated in the last issue of COMMERCIAL CAR JOURNAL.

Ben H. Richards, district representative in the inter-mountain territory, is in charge of the new GMC factory branch in Salt Lake City.

BILLS providing for compulsory liability insurance for all motor vehicle owners and operators have been introduced in the Legislatures of New York, Minnesota, Nebraska, Ohio, Tennessee, Connecticut, New Jersey, Alabama, Pennsylvania, North Carolina, Indiana, West Virginia, New Hampshire and California. Motor vehicle dealers and operators are urged to oppose the passage of such bills not only because of the limitations they will place on sales but, also, because compulsory automobile liability insurance is premature and will not prevent accidents.

R OBERT PAGE, JR., has been elected president of the Autocar Company succeeding the late L. L. Woodward. Mr. Page is a native of Virginia and joined Autocar as a salesman. He has been successively manager of the Boston branch, New England district manager, and, for the last year, general sales manager.

Exports of motor trucks and buses from the United States in 1926 totaled 66,775 with a value of \$47,079,424 as compared with 58,625 vehicles in 1925 with a value of \$37,703,402.

GRAMM MOTORS, Inc., Lima, Ohio, at its annual stockholders' meeting, reported the past year's business very gratifying and that business already contracted for 1927 necessitates an increase of four times the 1926 production.

Regular dividend on preferred stock was declared and ordered paid. An increase of \$150,000 in capital stock was authorized to provide additional working capital.

Fair Weather—the Business Forecast

HE barometers of business are in the main forecasting fair weather for the commercial vehicle industry. As revealed by freight car loadings, chain store sales and bank debits to individual accounts, general activity in January was substantially above the level of a year ago. There is, of course, some irregularity in specific lines but this does not appear to affect trucks and buses directly, with the possible exception of the decline in new building contracts noted in January.

Contracts awarded in that month in 37 eastern states, as reported by the F. W. Dodge Corp., totaled \$384,455,400, a decline from the preceding month of 28.5 per cent

and from January, 1926, of 15.9 While curtailment in building might be expected to reduce the market for heavy-duty trucks, one month's decline in contracts cannot be regarded as evidence of a slump. The January figures reveal a prospective volume of construction still unusually high.

For the country as a whole, the industrial districts are in the best condition, both immediately and potentially, contrasting in this respect with the agricultural regions. Last year was undoubtedly a bad one for the farmers, Department of Agriculture figures showing that the value of farm products was \$1,148,000,000 under 1925, although of this more than 50 per cent was due

directly to the slump in the cotton

The significance of this for the truck industry lies in the fact that farm sales are still relatively small, and truck manufacturers and dealers are accordingly in a more favorable position than those making or handling motor cars, especially in the lower price classes. As a matter of record, sales of trucks and buses held up better than cars during the winter.

The dominating factor in general business continues to be the easiness of credit and so long as this holds true there appears to be no just cause for concern. Federal reserve credit outstanding is at the lowest levels in nearly two years.

R EPORTS received by the Accessory Manufacturers Association from shop equipment exhibitors at the two national automobile shows indicate that the feature was a thorough success. More sales of shop equipment were made at the New York show alone than at any previous national show or at the Service Equipment Expositions staged independently at Detroit.

Estimates of Canadian registrations made by the U. S. Department of Commerce indicate that on Jan. 1, 1927, there were 84,953 trucks, and 1503 motor buses registered in the Dominion.

INSPECTION and classification of commercial automobiles and trucks are now being made by the National Board of Fire Underwriters, and it is expected that this activity will continue until the list will include many, if not most, of the commercial cars.

H. Randall Wickes, vice-president of the Ruggles Motor Truck Co., has been appointed general manager succeeding R. J. Goldle, who resigned who resigned.

OTOR carriers operating interstate lines and also handling intrastate business must comply with state and municipal regulations regarding the securing of certificates of public necessity and convenience and of licenses unless they show that the application of these regulations prejudice interstate carriage, according to the decision handed down by the U.S. Supreme Court in Interstate Buses Corp. vs. Holyoke Street Railway Co. et al. In order not to come under such regulations, the operator must show that the intrastate business is essential to interstate operation and that it is not reasonably practical to separate the two.

HE Westinghouse Air Spring Co. of THE Westinghouse Air Spring Co. or New Haven, Conn., has been absorbed by the Cleveland Pneumatic Tool Co. of Cleveland, according to L. W. Grave, the treasurer and general manager of the latter concern. Manufacture of both the Gruss and Westinghouse air springs will be concentrated at the plant of the Cleveland Pneumatic Tool Co.

Dallas C. Pratt and F. F. Fitz-patrick have been elected direc-tors of American Car & Foundry Co. and the American Car & Securities Corp.

H. N. Sloan has been appointed vice-president in charge of all sales activity of the Buda Co., Harvey, Ill. Mr. Sloan was formerly treasurer of the company and his duties have now been assumed by J. S. Dempsey.

M OTOR Carrier Regulations—Federal, State and Municipal, and Motor Carrier Regulation by Certificates of Necessity and Convenience are the titles of two pmphlets which have been reprinted from the Columbia Law Review and the Yale Law Journal respectively by the National Automobile Chamber of Commerce. These pamphlets, copies of which may be obtained from the Chamber, are of interest not only because of the views presented by their author but also because of the wealth of legal references which they cite.

Waukesha Motor Co., for year ended July 31, 1926, reports net sales \$4,103,168, against \$3,106,669 for the previous fiscal year, and net income of \$596,993 and \$385,-329 respectively.

Bearings Co. of America reports net income for the period from Feb. 23, 1926, to Sept. 30, 1926, of \$312,595, after dividends on the first and second preferred stock.

RECENT court decisions indicate that the right of a state to collect taxes from an interstate carrier depends on the method of taxation. A tax on gross receipts can not be enforced against an interstate carrier while a levy on the basis of a flat fee, such as a seat tax or a seat mile tax, is legally enforceable.

Martin-Parry Corp. for the quarter ended Nov. 30, 1926, reports net sales at \$1,207,549 and net profits of \$139,520 after all deductions and taxes.

Mack Trucks, Inc., earned \$8,084,733 net in the 11 months to Nov. 30, 1926. This com-pares with earnings of \$9,468,269 for the entire year of 1925.

Net profits of the Seiberling Rubber Co., after preferred divi-dends, amounted to \$359,117 in 1926 as compared with \$890,988 in 1925.

HEVROLET has inaugurated scrapping plan under which the factory puts \$5 into a reserve fund for each new car shipped. From this fund payments of \$50 will be made to the dealer for each Chevrolet scrapped in the presence of a factory representative.

Thompson Hi-Lift Dumps Ten Feet Above Ground

dumping angle is now being manufactured by the Jones Gear Co. of Benton Harbor, Mich.

This body has been thoroughly tested out during the past four years by the Chicago Union Lime Works Co., and has proved satisfactory in every way.

Attachable to any chassis frame by means of substantial U-bolts, the framework is built of channel and angle steel, with I-beam supports under the body. Four steel screws raise the body

DUMP body that rises eight feet from its normal position on the truck vertically before being tipped to a frame to a height of about eight feet from the frame top. A Wood hydraulic hoist then dumps the body.

A unit assembly bolted to the truck transmission provides the power takeoff for both the mechanical hoist and The mechanical the hydraulic lift. portion operates through a chain and bevel gears, with big phosphor-bronze nuts carrying the load on the screws.

The whole framework is well braced to take care of the load in its topmost position and the whole unit is practically fool-proof.

> In the size illustrated, the complete hoist and body weigh less than 2000 pounds, and will handle up to twenty tons. The bodies are made in sizes to fit trucks from two tons upwards.

> A big feature of this assembly is that it is practically impossible for any binding to take place when the load is being raised or lowered. whether the vehicle is on level ground or not.

Another model of this body permits of dumping from either side or the bottom, a valuable labor and time saving feature in loading railroad cars or refrigerators. The headquarters of the manufacturer are at 35 Wacker Drive, Chicago, Ill.



This model will accommodate 20 tons and weighs 2000 Various sizes from two tons up are available

Bethlehem Rolled Steel Truck Wheels -reliable

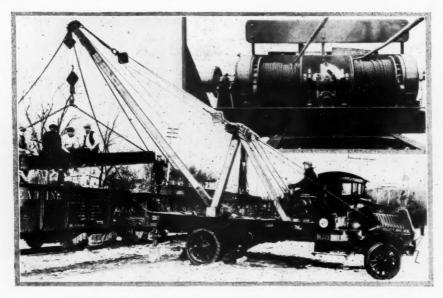
- -resilient
- -durable
- -rugged



BETHLEHEM STEEL COMPANY, General Offices: BETHLEHEM, PA.

District Offices in New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis, San Francisco, Los Angeles, Seattle, Portland

BETHLEHEM



Winch-equipped truck unloads 140 tons of structural steel

The steel was unloaded direct from gondola cars onto trucks by a crew of four men. The equipment, which is in the service of Erhart Bros., Brooklyn, N. Y., consists of a 5-ton Mack, a Silent Hoist double drum winch and derrick. One drum is used for handling the load line and the other for lowering and raising the boom. Each drum accommodates 750 ft. of ½ in. cable. Two winch heads are provided for auxiliary work. Portability is the big feature of the outfit.

Dollar Volume

(Continued from page 14)

This tabulation indicates that in the after-market, each commercial vehicle is equal to two passenger cars.

The rate of growth of the commercial vehicle market and its geographical distribution are probably best indicated by registrations. In 1926, a total of 2,819,772 commercial vehicles was registered in the United States, a gain of 11 per cent over the preceding year. Production of commercial vehicles in this country and Canada amounted to 535,006 and represented a 7 per cent gain over 1925. Of this total about 109,000 either were manufactured in Canada or exported so that the net available for sale in this country was about 426,000, an increase of but 2 per cent over the corresponding total of 417,000 in 1925. This comparison indicates that, while increased sales in the United States were a factor in the gain in production, they were not of as great importance as the growth of our foreign markets.

The rate of growth in commercial vehicle use was not uniform in all parts of the country as the West South Central States of Arkansas, Louisiana, Oklahoma and Texas enjoyed a 21 per cent gain while registrations in New England increased but 3 per cent as compared with the national gain of 11 per cent. Table II shows the gains in each of the nine zones into which the country is divided and also the percentage of the total in each zone. It will be noted that East North Central zone shows the largest commercial vehicle registration.

The distribution of truck dealers does

noted that the number of trucks per dealer varies between a minimum of 57 in the Mountain States and a maximum of 177 in the Pacific zone. This condition is accounted for in part at least by the fact that some of the larger truck makers, such as Ford, also make passenger cars and in establishing their dealer organization, the requirements of the passenger car market have been a dominating factor.

Exhibitors Pleased

(Continued from page 15)

Sales resistance gets an awful wallop right there.

Dealers, buyers and the general public-and the last-named have a distinct influence on the market-have taken advantage of the presence of the truck exhibits at the automobile shows. Only one criticism was heard, and that was

that the business vehicles were relegated to the corners away from the main portion of the show. However, as another exhibitor pointed out, this has the advantage of tending to conserve the space to those genuinely interested.

There were but two additions at the Chicago exhibition to the list of new trucks displayed at the New York show and described in the January COMMER-CIAL CAR JOURNAL. These were a convertible roadster by Chevrolet and the Roamer 34-ton chassis.

The Chevrolet job is a standard roadster on which the rear deck cover may be removed and a tray body quickly slipped into place as shown in the accompanying illustration. The list price of this model is \$553.

Although the Roamer announced twonew chassis-a 1500 lb. and a 3000 lb. job-only the smaller one was shown. This is a six-cylinder model and sells for \$975 at the Kalamazoo factory. The engine is Lycoming 3 x 5 in. bore and stroke, with a Borg & Beck clutch and three-speed unit gearset. The rear axle is a Salisbury three-quarter floating type carrying artillery type wood wheels with 30 x 5 in. tires. Since the photograph was taken the design has been altered in so far that the rear springs are now anchored under the Hydraulic brakes are fitted, axle. operating on the rear wheels only. The wheelbase is 132 in.

We're Here to Serve

(Continued from page 17)

ery morning. On Thursday evenings there is the managers' meeting at which all branches are represented. These meetings are presided over by Mr. Mathison and attended by the executives and department heads. The treasurer discourses on credits and finances, the used car head on trade-ins, Mr. Lyon on trucks, the service manager on service as it relates to sales. In brief these meetings are of the real get-together kind where wrinkles are ironed out and constructive suggestions acted upon.

Coming Events

SHOWS
Albany, N. YFeb. 26-March 5
State Armory.
*Boston, MassMarch 5-12
Mechanics' Bldg.
ClevelandOct. 3-7
Public Auditorium, American Elec-
tric Railway Ass'n.
Fort Worth, Texas March 5-12
*Los AngelesFeb. 26-March 8
Washington Park.
New YorkMarch 14-19
Electric Truck Show, Irving Place
and 15th St.
Omaha, NebFeb. 21-26
Auditorium.
Quebec, CanMarch 1-8
Drill Hall.
Quincy, IllFeb. 22-25
Armory.
Rocky Mount, N. CApril 4-8
Saginaw, Mich March 9-12
City Auditorium.

not follow registrations, as it will be *Will have special shop equipment exhibits.

*St. Louis, Mo. Feb. 21-26
Union Market Bldg.
San Bernardino, Calif. Feb. 17-27
National Orange Show Bldg.
Wichita, Kan. Feb. 22-25
Southwest Road Show, Wichita
Thresher and Tractor Club, Inc.

CONVENTIONS

ciation, Benjamin Franklin Hotel, Philadelphia March 1 Society of Automotive Engineers, Sum-mer Meeting, French Lick Springs, 10-11May 25-28

11



He's a Friend of the Boss

THERE aren't any sulks or grievances in this smiling bus driver's constitution. He's got a right friendly feeling for the boss who puts ease and safety into his job by equipping his bus with the Ross Cam and Lever Steering Gear. With Ross he can drive all day without strain or fatigue—and go home with a smile for the wife and kids. Ross makes contented drivers. That's one thing, and we'd like to tell you more.

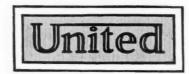
ROSS GEAR AND TOOL COMPANY - Lafayette, Indiana
Member Motor Truck Industries, Inc., of America



EASIER STEERING

LESS ROAD SHOCK





AN IMPORTANT ANNOUNCEMENT BY

ACME

United Trucks, are now being manufactured, sold and serviced by the United Division of the Acme Motor Truck Company, Cadillac, Michigan.

Mr. G. R. Wilber, General Manager of United, assumes charge of the United sales and service organization with office at the Acme factory at Cadillac, Michigan.

The Acme plants and resources now linked with the United mean a union of industrial strength that insures the utmost in product and service to United owners and prospective purchasers.

UNITED DIVISION

ACME MOTOR TRUCK CO.

CADILLAC



MICHIGAN

Commercial Car Specifications-Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars Those Chassis Which Are Sold and Recommended for Bus Use Are Designated in the Following Table by Reference Sign (§) in Front of the Name

For Motor Bus Chassis See Pages 44 and 45

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		Wheels (Make)	Mot Hay	Kel Smi Own Hoo Mot	Bim
	ke)	Steering Gear (Ma	Own Jac Own	Dod Bos Gen Gen Gen	DD-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-G-
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Motor Bus Chassis Specifications

For Other Chassis Which Are Recommended and Adaptable for Bus Use, See Models Having Sign (§) in the "COMMERCIAL CAR SPECIFICATIONS"

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s, page	DIMENSIONS (In.)	Overall	Length	259 276	312 243 243 256 3448%	270 286 330 343 279	2461/2 293 294 288	342 339 360 14 277 296	295
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of abbi			Wheels-Make	Bud Bud Mot Mot	Bud Bud Bud Bud	Bud Bud Bud Bud Bud	Bud Bud Bud Van	Bud Bud Bud Bud Own	Day Day
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Electric Commercial Cars

Name and Model Number	Total Weight Resting on Four Tires	Chassis Weight— Exclusive of Battery	Minimum Load Capacity	Maximum Load Capacity	Chassis Price	Maximum Speed	Location of Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Spring	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent of Weight on Rear Wheele
C-T-H1 C-T F-1.5. C-T H-1.5. C-T H-1.5. C-T H-2. C-T H-2. C-T H-2 C-T F-7 C-T F-7 C-T F-7 C-T F-10 C-T	6600 8000 11950 17700 17900 22250 22750 28850 8700 10400 32000	2400 2800 2800 3100 3100 4200 5800 6500 7000 3600 4200 12200 2400 3000 3200 6500 7200 6500 7200 6500 7200 6630 8430	600 1020 2170 4290 6180 9500 13780	1150 1700 2800 5430 7760 11200 15920	1850 2475 2475 2675 2675 3250 3250 4300 5450 4500	11 10	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	55 60 60 60 50 50 50 45 45 45 45 45 50 50 50 50 60 60 60 60 60 60 60 60 60 6	G-E	Own	444444445555555444445555	Own Own Own Own Own I Own C C C C C C C C C C C W Own Own Own Own W W W W W W W W	FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	She She She She She She She She She Leat Leat Lat Mat Mat Mat Mat She	S 36x3 ¹ / ₂ S 36x3 S 36x4 S 36x6 S 36x7 S 36x6 S 36x5 S 36x6 S 36x6 S 36x7	S 36x4 S 36x4 S 36x4 S 36x5 S 36x5 D 836x4 D 836x4 D 836x6 D 836x6 D 836x7 S 34x6 S 40x14 D 836x3 D 836x5 S 34x6 S 40x14 D 836x3 S 32x4 S 36x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x5 S 36x6 D 836x6 D 836x6 S 36x6 D 836x6 D 836x7	W W W W W W W W W W W W W W Ros Gem Own Own Own Own Own Own Own Own Own Own	108 94 116 96 124 136 152 152 152 152 153 153 168 107 135 143 108 94 101 114 131 141 188 91 107 108 109 109 109 109 109 109 109 109 109 109	67 67 67 67 67 67 68 67 58 67 60 60 66 66 66 66 66 66 66 66 66 66 66

NOTE: Battery Equipment on all above makes is at the option of the purchaser. Battery Location Abbreviations: A-amidships; H-under hood; and S-under seat

KEY OF ABBREVIATIONS

For addresses of manufacturers listed below see Chilton Catalog and Directory

Wheelbase

'More than one wheelbase fur-

B—Balloon.
P—Pneumatics standard equip.
DP—Dual pneumatics standard equipment.
—Solids.
S—Dual solids.

-Pneumatics can be furnished at extra cost.

Engine Bud-Buda Co.

Duda Co.

Con—Continental M. Corp.

D—Head and Side.

FP—Full Pressure to all bearings including wrist pins. Has—Hall-Scott Motor Car Co. Her—Hercules Motor Corp. Hin—Hinkley M. & P. Corp. I—In Head. I—In Head.
Jackson—Master Motor Truck
Mfg. Co.
Kni—Yellow Sleeve Valve Eng.
Works.
L—L-Head.
Lyc—Lycoming M. Corp.
PC—Pressure to all crankshaft
and connecting-rod bearings.
PS—Pressure with splash.
SP—Circulating splash.
T—T-Head.

Wau—Waukesha M. Co.
Wis—Wisconsin M. Mfg. Co.
Yell—Yellow Sleeve V. Works. X-Sleeve.

Governor

Governor

Han—Handy Gov. Co.

Hin—Hinkley M. & P. Corp.
K. P.—K. P. Products Co.

McC—E. R. Klemm.

Mon—Monarch Gov. Co.

Non—Not Supplied.

Pha—Pharo Mfg. Co.

Pie—Pierce Governor Co.

Sim—Eisemann Magneto Corp.

Wau—Waukesha M. Co.

Radiator

Hadiator
Bus—Bush Mfg. Co.
Chi—Chicago Mfg. Co.
Fed—Fedders Mfg. Co.
G&O—G. & O. Mfg. Co.
Har—Harrison Rad. Corp.
Lon—Long Mfg. Co.
McC—McCord Rad. & Mfg. Co.
McK—McKinnon Dash Co.
Mod—Modine Mfg. Co.

Per—Racine Radiator Co. R-T—Rome-Turney Rad. Co. Tyr—Tyree Auto Rad. Mfg. Co. U. S.—U. S. Cartridge Co.

Fuel System

B.B.—Penberthy Injector Co. Car—Carter Carburetor Co. G—Gravity. G—Gravity.
Joh—Johnson Co.
Mar—Marvel Carburetor Co.
P—Pressure.
Sch—Wheeler Schebler Car. Co.
Ste—Detroit Lubricator Co.
Str—Stromberg Motor Devices
Co.

Co. il—Tillotson Mfg. Co. Til—Tillotson Mfg. Co. V—Vacuum. Zen—Zenith-Detroit Corp.

Electrical Systems

Electrical Systems

†—Generator & Starter at Extra Cost.

†—Starter not supplied, Generator at Extra Cost.

*—Starter at Extra Cost.

*—Starter at Extra Cost.

A-L—Electric Auto-Lite Corp.
Apo—Apollo Magneto Corp.
Bos-A—Am. Bosch Magneto Co.
Bos-R—Rob. Bosch Magneto Co.
Con—Connecticut Telephone &
Electric Co.
Del—Dayton Eng. Lab. Co.
DJ—DeJon Elec. Corp.
Dyn—Owen Dyneto Corp.
Eis—Elsemann Magneto Corp.
Eis—Elsemann Magneto Corp.
Exi—Electric S. B. Co.
G&D—Gray & Davis.
Gou—Gould S. B. Co.
L-N—Leece-Neville Co.
Non—Not Supplied.
Pol—Prest-O-Lite Co.
Rem—Remy Electric Co.
Scl—Scintilla Magneto Co.
Spl—Splitdorf Electrical Co.
USL—U. S. Light & Heat Corp.
Ves—Vesta Battery Corp.
Wes—Westinghouse E. & M. Co.
Wil—Willard S. B. Co.
Clutch and Gearset

Clutch and Gearset

-Other ratios optional. *--Other ratios optional.

A-Amidships.

B & B-Borg & Beck Co.

B-L-Brown-Lipe Gear Co.

Cot-Cotta Trans. Corp.

Cov-Covert Gear Co.

Det-A. J. Detlaff Co.

D-G-Detroit Gear & Mach. Co.

Dod-Dodge Brothers Co.

D-Disk.

Dur-Durston Gear Corp. Dur-Durston Gear Corp.

Ful—Fuller & Sons Mfg. Co. H-S—Merchant & Evans Co. J—Unit with Jackshaft. K—Cone.

K—Cone.
Lon—Long Mfg. Co.
M. M.—Mechanics Mach. Co.
Mun—Muncie Gear Works.
O—Disk in Oil.
P—Plate.
Roc—Rockford Drill. Mach. Co.
W. Weith with English. Roc-Rockford Drill, Mach. Co. U-Unit with Engine. W-G-Warner Gear Co. Yell-Yellow Sleeve V. E. Wks.

Universal

Universal
B.G.—Universal Machine Co.
Blo—Blood Bros. Mach. Co.
Har—Spicer Mfg. Co.
M-E—Merchant & Evans Co.
M. M.—Mechanics Machine Co.
Pet—Cleveland Univ. Parts Co.
Pic—Pick Mfg. Co.
Spi—Spicer Mfg. Co.
The—Thermoid Rubber Co.
Thei—Almetal Univ. Joint Co.
U-M—Universal Machine Co.
U-P—Universal Products Co.

Front and Rear Axles

4—Semi-Floating.
4—Three-Quarter Floating.
B—Straight Bevel.
Cla—Clark Equip. Co.
Col—Columbia Axle Co.
Con—Continental Axle Co.
C—Chain.
D—Dead. D—Dead.

Bat—Eaton Axle Co.
F—Floating.
I—Internal Gear.
P—Spur Gear.
R—Double Reduction.
S—Spiral Bevel.
Sal—Salisbury Axle Co.
She—Sheldon Axle & Spring Co.
Shu—Shuler Axle Co., Inc.
Std—Standard Parts Co.
Tim—Timken Det. Axle Co.
Tor—Eaton Axle & Spring Co.
W—Worm.
Wis—Wisconsin Parts Co.

Brake

A—Rear Wheels only.
B—Driveshaft and Rear Wheels
C—6 Wheel Brakes.
D—Jackshaft and Rear Wheels.
E—4 Wheel Brakes.

Springs

Bea—Eaton Spring Corp. Bet—Betts Bros. Spring Co. Cha—Champion Auto Sp. Co.

Del—D. Delany & Son.
Det—Detroit Steel Prod Co.
Har—Harvey Sp. & Forging Co.
I. C.—Iron City Sp. Co.
Mat—Maremont Mfg. Co,
Mat—Maremont Mfg. Co,
Mat—Maremont Mfg. Co,
Mer—E. R. Merrill Spring Co.
Pen—Penn Sp. Works.
Per—Eaton Bum. & Sp. Co.
Row—Wm. & Harvey Rowland.
Sav—New Era Sp. & Spec. Co.
She—Sheldon Axle & Sp. Co.
S. P.—Spring Perch Co.
S. S.—Standard Steel Sp. Co.
Tem—Temme Spring Corp.
Tut—Tuthill Sp. Co.
U. S.—United States Sp. Co.
Steering Gear

Steering Gear Steering Gear
CAS—C. A. S. Products Co.
D-G—Detroit Gear & Mach. Co.
Dod—Dodge Bros. Co.
Gem—Gemmer Mfg. Co.
Han—Hannum Mfg. Co.
Jac—Saginaw Products Co.
Lav—Hannum Mfg. Co.
Ros—Ross Gear & Tool Co.
Woh—Wohlrab Gear Co.

Wheels Wheels
Arc—Archibald Wheel Co.
A-W—Auto Wheel Co.
Bet—Bethlehem Steel Co.
Bim—Bimel S. & A. Wheel Co.
Bud—Budd Wheel Co.
Cla—Clark Equip. Co.
Day—Dayton Steel Foun. Co.
Dis—Motor Wheel Corp.
Hay—Hayes Wheel Co.
Hoo—Hoopes, Bro. & Darling-ton. ton.
Ind—Indestructible Wheel Co.
Ind—Interstate Foundry Co.
Jon—Phineas, Jones & Co.
Kel—Kelsey Wheel Co.
Mot—Motor Wheel Corp.
M.M.—Mich. Malleable Iron Co.
Mun—Muncie Wheel Co.
Pru—Prudden Wheel Co.
Roy—Royer Wheel Co.
Sch.—St. Marys W. & S. Co.
Smi—Smith Wheel, Inc.
StM—St. Marys Wheel Co.
Std—Standard Wheel Co.
Van—Van Wheel Corp. ton.

Rim Equipment Rim Equipment
Cle—Cleveland Weld. & Mfg. Co.
Fir—Firestone Steel Prod. Co.
Gdy—Goodyear Tire & Rub Co.
Hay—Hayes Wheel Co.
Jax—Jaxon Steel Prod. Co.
Kel—Kelsey Wheel Co.
Non—None Supplied.

